

REMARKS

This Amendment is submitted in response to the Office Action dated August 26, 2004. In the Office Action, the Patent Office rejected Claims 1, 10-12, 14 and 19 under 35 U.S.C. §102(e) as being anticipated by *Isnardi* (U.S. Patent No. 6,687,384). Further, the Patent Office rejected Claims 2-4 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Isnardi* in view of the *Khansari et al.* (U.S. Patent No. 6,141,448). Moreover, the Patent Office rejected Claims 6 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Isnardi* in view of *Zhu* (U.S. Patent No. 5,821,887).

Applicants note with appreciation that the Patent Office indicated that Claims 5, 7-9, 15, 17 and 18 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. To this end, Applicants added Claim 20 incorporating Claim 5 with Claim 1; added Claim 21 incorporating Claim 7 with Claims 1 and 6; added Claim 22 incorporating Claim 8 with Claims 1 and 6; added Claim 23 incorporating Claim 9 with Claim 22; added Claim 24 incorporating Claim 15 with Claims 12 and 13; added Claim 25 incorporating Claim 17 with Claim 12; and added Claim 26 incorporating Claim 18 with Claims 12 and 17. Applicants submit that new Claims 20-26 are, therefore, in allowable form. Notice

to that effect is respectfully requested.

By the present Amendment, Applicants amended the specification, amended Claims 1 and 12 and added Claims 20-26.

The specification was amended to correct a typographical error and Applicants submit that no new matter is being entered into the application by the amendment to the specification. Further, Applicants submit that the amendment to the claims and the reasons that follow overcome the rejections made by the Patent Office and place the application in condition for allowance.

With respect to the rejection of Claims 1, 10-12, 14 and 19 under 35 U.S.C. §102(e) as being anticipated by *Isnardi*, Applicants submit that the amendments to Claims 1 and 12 overcome the rejection under 35 U.S.C. §102(e) and place the application in condition for allowance. Notice to that effect is requested.

In Office Action, the Patent Office alleged:

As to Claims 1 and 12, *Isnardi* discloses a method and apparatus for embedding data in encoded digital bitstreams comprising: providing a compressed bitstream (Fig. 4; col. 7, lines 58-60); identifying locations in the bitstream for embedding data into the bitstream (col. 9, lines 19-21) and replacing original codewords in the bitstream with alternate codewords having embedded data bits (col. 8, lines 21-25).

Independent Claim 1, as amended, requires the steps of

extracting a plurality of data bits from the locations of the bitstream and producing embedded data bits based on the plurality of data bits from the bitstream.

Independent Claim 12, as amended, requires a system for embedding information into a digitally compressed bitstream having embedded data bits produced by encrypting a plurality of data bits at the locations in the compressed bitstream.

Isnardi merely teaches a method and apparatus for embedding data in an encoded video bitstream, for example, an MPEG or MPEG-like bitstream. Further, the bitstream includes redundantly coded syntax element values of which one is an overriding value. Moreover, the bitstream includes mandatorily coding the syntax element overriding value and replacing the non-overriding syntax element value with the data to be embedded.

However, nowhere does *Isnardi* teach the steps of extracting a plurality of data bits from the locations of the bitstream and producing embedded data bits based on the plurality of data bits from the bitstream as required by Claim 1. *Isnardi* merely teaches "data hiding refers to the embedding of information into signals that have been coded in accordance with the MPEG or an MPEG-like coding standard." Further, *Isnardi* teaches "the information is embedded in the coded signal syntax without

altering the pixel samples of either the audio or video pixels, and "hidden data" refers to the information embedded or to be embedded by data hiding." Further, *Isnardi* teaches "hidden data is not present in the decoded signals produced by a standard decoder operating in accordance with the appropriate MPEG or MPEG-like coding standard."

With respect to Claim 12, nowhere does *Isnardi* teach a system for embedding information into a digitally compressed bitstream having embedded data bits produced by encrypting a plurality of data bits at the locations in the compressed bitstream. *Isnardi* teaches "each coded macroblock includes coding syntax information or elements in a macroblock header that specify the coding of the DCT coefficients and therefore how the decoder should operate in decoding the DCT coefficients in that macroblock." Moreover, *Isnardi* teaches "these syntax elements may be explicitly coded in a macroblock, i.e. the element value is actually specified and contained in the macroblock header, or the element value may be implicitly coded in which case the macroblock does not contain the syntax element value and the macroblock is decoded in accordance with the syntax element value as specified in a prior slice header or macroblock."

Under 35 U.S.C. §102(e), anticipation requires that a single

reference discloses each and every element of Applicants' claimed invention. *Akzo N.V. v. U.S. International Trade Commission*, 808 F.2d 1471, 1479, 1 USPQ 2d. 1241, 1245 (Fed. Cir. 1986). Moreover, anticipation is not shown even if the differences between the claims and the reference are "insubstantial", and one skilled in the art could supply the missing elements. *Structure Rubber Products Co. v. Park Rubber Co.*, 749 F.2d. 707, 716, 223 USPQ 1264, 1270 (Fed. Cir. 1984).

Since *Isnardi* fails to teach the steps of extracting a plurality of bits from the locations and producing embedded data bits based on the plurality of data bits as required by Claim 1 and fails to teach the embedded data bits produced by encrypting a plurality of data bits at the locations in the compressed bitstream as required by Claim 12, Applicants assert that the rejection of Claims 1, 10-12, 14 and 19 under 35 U.S.C. §102(e) has been overcome and should be withdrawn. Notice to that effect is requested.

With respect to the rejection of Claims 2-4 and 13 under 35 U.S.C. §103(a) as being unpatentable over *Isnardi* in view of *Khansari et al.*, Applicants respectfully submit that the rejection has been overcome by the amendments and for the reasons that follow. In the Office Action, the Patent Office asserts:

Khansari et al. discloses compression using spatial and temporal (col. 11, lines 31-43). The slices of the picture are organized into group of blocks before temporal compression is applied to the image data. Spatial and temporal locations need to be located for embedding data bits.

Claim 2 requires the step of scanning the bitstream to find spatial locations for embedding data bits; Claim 3 requires the step of scanning the bitstream to find temporal locations for embedding data bits; Claim 4 requires the step of scanning the bitstream to find spatial or temporal locations for embedding data bits that can be reliably recovered by an error resilience decoder if the bitstream is subject to errors during transmission; and Claim 13 requires means for scanning the bitstream to locate blocks wherein the blocks contain the original codewords.

Khansari et al., however, fail to teach or to suggest the steps and the elements of the present invention which are not taught by *Isnardi* as required by amended independent Claims 1 and 12, respectively, from which Claims 2-4 and Claims 12, depend, respectively. Accordingly, the rejection of Claims 2-4 and 12 under 35 U.S.C. §103(a) has been overcome and should be withdrawn. Notice to that effect is requested.

With respect to the rejection of Claims 6 and 16 under 35 U.S.C. §103(a) as being unpatentable over *Isnardi* in view of

Zhu, Applicants respectfully submit that the rejection has been overcome by the amendments and for the reasons that follow. In the Office Action, the Patent Office asserts "*Isnardi* does not disclose the original codewords have a triplet form and wherein final codewords have a LAST coefficient=1." Further, the Patent Office asserts "Zhu discloses H.263 standard employing fixed Huffman tables for encoding what is calls "events" with 3 tuple defined as (LAST, RUN, LEVEL) with the LAST is a nonzero coefficient indication (col. 7, lines 50-56)."

Claim 6 requires the original codewords to have a triplet form of EVENT = (RUN, LEVEL, LAST) and further wherein final codewords in the bitstream have a "LAST" coefficient = 1. Claim 16 requires the codewords to have a triplet form of EVENT = (RUN, LEVEL, LAST) and further wherein final codewords in the bitstream have a "LAST" coefficient = 1.

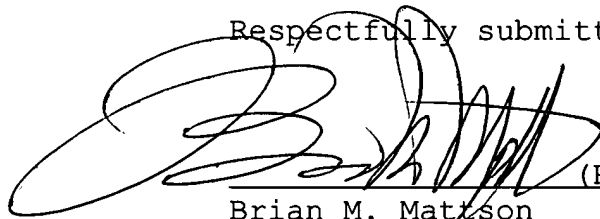
Zhu, however, fails to teach or to suggest the steps and the elements of the present invention which are not taught by *Isnardi* as required by amended independent Claims 1 and 12, respectively, from which Claims 6 and 16, respectively, depend. Accordingly, the rejection of Claims 6 and 16 under 35 U.S.C. §103(a) has been overcome and should be withdrawn. Notice to that effect is requested.

Claims 2-11 depend from Claim 1; and Claims 13-19 depend

from Claim 12. These claims are further believed allowable over *Isnardi, Khansari et. al.* and *Zhu* for the same reasons set forth with respect to Claims 1 and 12 since each sets forth additional steps and novel elements, respectively, of Applicants' method and system, respectively.

In view of the foregoing amendment and remarks, Applicants respectfully submit that all of the claims in the application are in allowable form and that the application is presently in condition for allowance. If, however, any outstanding issues remain, Applicants urge the Patent Office to telephone Applicants' attorney so that the same may be resolved and the application expedited to issue. Applicants request the Patent Office to indicate all claims as allowable and to pass application to issue.

Respectfully submitted,



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